

CLAIMS

What is claimed is:

1. An implantation system comprising:
an implant having a contoured portion; and
a driver having a cutting portion and a driving portion, wherein the cutting portion is configured to form an implant engaging surface within a work material, and the driving portion is configured to drive the contoured portion into engagement with the implant engaging surface.
2. The system of claim 1 wherein the implant is a bone screw.
3. The system of claim 1 wherein the contoured portion is defined by a threaded surface.
4. The system of claim 1 wherein the implant further comprises a generally cylindrical body, the body including a first end defining a top surface, a second end, a threaded outer surface and at least one channel, the channel extending from the top surface to the second end.

5. The system of claim 4 wherein the cutting portion includes a plurality of thread forming portions linearly spaced along the cutting portion, the cutting portion positioned within the channel such that the implant can be threaded into an aperture formed within the work material as the cutting portion forms an internal threaded surface within the aperture.

6. The system of claim 1 wherein the work material is a bone.

7. The system of claim 1 wherein the implant is resorbable.

8. The system of claim 1 wherein the implant defines an anchor locking surface.

9. The system of claim 8 further comprising a staple having an upward locking surface, the upward locking surface configured to engage with the anchor locking surface.

10. The system of claim 9 further comprising a graft interposed between the staple and the implant.

11. The system of claim 9 further comprising a slot formed within the aperture wherein the staple is at least partially located within the slot, thereby inhibiting rotation of the implant relative the working surface.

12. The system of claim 11 wherein the slot is formed by translating the driver in a direction that is parallel to the axis of the implant.

13. The system of claim 9 wherein the staple further comprises a graft pin, the implant further comprises a graft aperture and the graft pin is configured to be inserted within the graft aperture.

14. The system of claim 9 wherein the implant further comprises a graft pin, the staple further comprises a graft aperture and the graft pin is configured to be inserted within the graft aperture.

15. The system of claim 9 further comprising a suture aperture within the staple.

16. A bone attachment apparatus comprising:

an implant having a generally cylindrical body, the implant including a first end defining a top surface, a second end, a threaded outer surface and at least one channel; and

a staple having a locking surface, the locking surface configured to engage with a surface of the channel.

17. The apparatus of claim 16 wherein the staple includes a graft holding surface.

18. The apparatus of claim 16 wherein the implant includes a graft holding face.

19. The apparatus of claim 16 wherein the implant is coupled within an aperture defined by a bone, the aperture including a slot extending to an exterior surface of the bone, wherein the staple is at least partially located within the slot, thereby inhibiting rotation of the implant relative the bone.

20. A method of connecting an implant to a bone comprising:
forming an implant engaging surface within a bone aperture;
driving the implant into the bone aperture, wherein a contoured surface of the implant engages the implant engaging surface; and
inserting a staple into a slot, whereby the staple bindingly engages both the implant and the bone aperture.

21. The method of claim 20 further comprising forming the slot within the bone aperture.

22. The method of claim 20 wherein forming the implant engaging surface includes rotating a driver within the bone aperture.

23. The method of claim 22 wherein driving the implant into the bone aperture and rotating the driver are performed simultaneously.

24. The method of claim 20 wherein forming the implant engaging surface includes rotating the implant within the bone aperture.

25. The method of claim 20 further comprising forming the slot by translating a driver in a direction that is parallel to the axis of the bone aperture.

26. The method of claim 20 wherein driving the implant into the bone aperture forms the slot.

27. The method of claim 20 wherein driving the implant into the bone aperture includes linearly translating the implant.

28. The method of claim 20 further comprising inserting the staple into a channel formed within the implant.

29. The method of claim 28 wherein inserting the staple into the slot and inserting the staple into the channel are performed simultaneously.

30. The method of claim 20 wherein driving the implant includes threading a resorbable bone screw into the bone aperture.

31. The method of claim 20 wherein driving the implant includes linearly driving a resorbable bone screw into the bone aperture.

32. The method of claim 20 further comprising interposing a graft between the implant and the staple.

33. The method of claim 32 wherein interposing the graft between the implant and the staple includes engaging the graft with a graft holding surface of the staple.

34. The method of claim 32 wherein interposing the graft between the implant and the staple includes engaging the graft with a graft holding face of the implant.

35. The method of claim 20 wherein inserting the staple into the slot includes engaging an anchor locking surface with a staple locking surface wherein the anchor locking surface defines at least a portion of a channel formed within the implant.

36. A method of driving an implant comprising:

forming an aperture within a bone;

coupling the implant to a driver;

driving the implant into the aperture; and

forming an implant engaging surface within the aperture;

37. The method of Claim 36, wherein driving the implant and forming the aperture are performed simultaneously.

38. The method of Claim 36, wherein driving the implant includes linearly translating the implant.

39. The method of Claim 38, wherein driving the implant includes impacting the driver.

40. The method of Claim 36, wherein driving the implant and forming the implant engaging surface are performed simultaneously.

41. The method of Claim 36, wherein forming the implant engaging surface includes forming a threaded surface.

42. The method of Claim 36, wherein driving the implant includes rotating the driver.

42. The method of Claim 36, wherein forming the implant engaging surface includes forming the implant engaging surface with the driver.

43. The method of Claim 36, wherein forming the implant engaging surface includes forming the implant engaging surface with the implant.